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**Brocato**

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(54) **SAW CORRELATOR SPREAD SPECTRUM RECEIVER**

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(58) **Field of Classification Search**  
USPC ..... 375/151, 149, 150, 152, 153  
See application file for complete search history.

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(57) **ABSTRACT**

A surface acoustic wave (SAW) correlator spread-spectrum (SS) receiver is disclosed which utilizes a first demodulation stage with a chip length  $n$  and a second demodulation stage with a chip length  $m$  to decode a transmitted SS signal having a code length  $l=n \times m$  which can be very long (e.g. up to 2000 chips or more). The first demodulation stage utilizes a pair of SAW correlators which demodulate the SS signal to generate an appropriate code sequence at an intermediate frequency which can then be fed into the second demodulation stage which can be formed from another SAW correlator, or by a digital correlator. A compound SAW correlator comprising two input transducers and a single output transducer is also disclosed which can be used to form the SAW correlator SS receiver, or for use in processing long code length signals.

**9 Claims, 10 Drawing Sheets**

